

In re Patent Application of:

MCCARTHY ET AL.

Serial No. **10/779,402**

Filed: **FEBRUARY 13, 2004**

REMARKS

The Examiner is thanked for the careful examination of the present application. Independent Claim 17 and its dependent claims have been amended to address the informality and rejection thereof as being directed to nonstatutory subject matter. In view of the amendments and arguments presented in detail below, it is submitted that all claims are patentable over the prior art.

I. The Claimed Invention

Independent Claim 1 is directed to a communications system that includes a plurality of servers connected together in a network for processing a plurality of different job types having respective different resource usage characteristics associated therewith. Each server, after beginning execution of at least one job, determines its own respective health metric based upon the at least one job being executed thereby and weighs the health metric based upon the respective resource usage characteristic of the at least one job. The resource usage characteristic represents resources being consumed by the at least one job. The servers map the weighted health metrics for different resource usage characteristics to a common scale. The communications system includes a dispatcher for collecting the commonly scaled weighted health metrics from the servers by polling the servers for the weighted health metrics and distributing jobs to the servers based thereon.

Independent Claim 9 is directed to a load distributor for a plurality of servers. Independent Claim 14 is directed to a job distribution method for a plurality of servers. Independent

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Claim 17 is directed to a corresponding computer readable medium.

II. The Claims Are Patentable

The Examiner rejected independent Claims 1, 9, 14, and 17 over the combination of Albert et al. and Dar. Albert et al. is directed to a system and method for selecting a server to handle a connection. The method includes receiving at a service manager a connection request intercepted by a network device having a forwarding agent that is operative to receive instructions from a service manager, the connection request having been forwarded from the forwarding agent on the network device to the service manager.

A preferred server is selected at the service manager from among a group of available servers. The preferred server is the server that is to service the connection request. Instructions are sent from the service manager to the forwarding agent. The instructions include the preferred server that is to service the connection request so that the connection request may be forwarded from the network device to the preferred server. The servers send feedback messages to the service manager. The service manager uses these feedback messages to perform load balancing.

The Examiner correctly recognized that Albert et al. fails to teach different resource usage characteristics, and determination of a health metric of a server by that server based upon resource usage characteristics after beginning execution of a job. In an attempt to provide these critical deficiencies of Albert et al., the Examiner looked to Dar.

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Dar discloses a communications system including a switch, clients, a network, and servers. The switch performs typical routing functions such as network address translation from virtual addresses to actual addresses, routing of packets, and using access control lists. The switch also monitors the health of the servers by monitoring and aggregating metrics indicative of the health. The metrics include processor, memory, and input/output metrics. This monitoring can be periodic.

Even the selective combination of Albert et al. and Dar, however, fails to disclose each server, after beginning execution of at least one job, determining a respective health metric thereof based upon the at least one job being executed thereby and weighting the health metric based upon the respective resource usage characteristic of the at least one job, the resource usage characteristic representing resources being consumed by the at least one job, as recited in independent Claim 1. The Examiner cited paragraph 29 of Dar as disclosing this claimed feature.

The cited paragraph of Dar, however, merely discloses that the switch receives indicia regarding the health of the servers, and then determines the health metric of the servers based upon that indicia. For example, paragraph 30 of Dar discloses that the switch monitors data from the servers and analyzes that data, and can therefore determine the server processor load for each processor over time, and the contributions to the load by each of the programs on a particular server. That is, Dar discloses that the switch determines a health metric of a server, as opposed to the server itself

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determining the health metric, as taught by independent Claim 1. Consequently, Dar fails to disclose each server, after beginning execution of at least one job, determining a respective health metric thereof based upon the at least one job being executed thereby and weighting the health metric based upon the respective resource usage characteristic of the at least one job, the resource usage characteristic representing resources being consumed by the at least one job, as recited in independent Claim 1.


Since Albert et al. does not disclose this critical deficiency of Dar, the combination thereof does not disclose the above noted feature. As such, independent Claim 1 is patentable over the combination of Albert et al. and Dar. Independent Claims 9, 14, and 17 contain similar recitations, and are patentable over the combination of Albert et al. and Dar for the same reasons. The dependent claims, which recite yet further distinguishing features, are likewise patentable and require no further discussion herein.

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CONCLUSION

In view of the amendments and arguments provided herein, it is submitted that all the claims are patentable. Accordingly, a Notice of Allowance is requested in due course. Should any minor informalities need to be addressed, the Examiner is encouraged to contact the undersigned attorney at the telephone number listed below.

Respectfully submitted,



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